PATENT ABSTRACTS OF JAPAN

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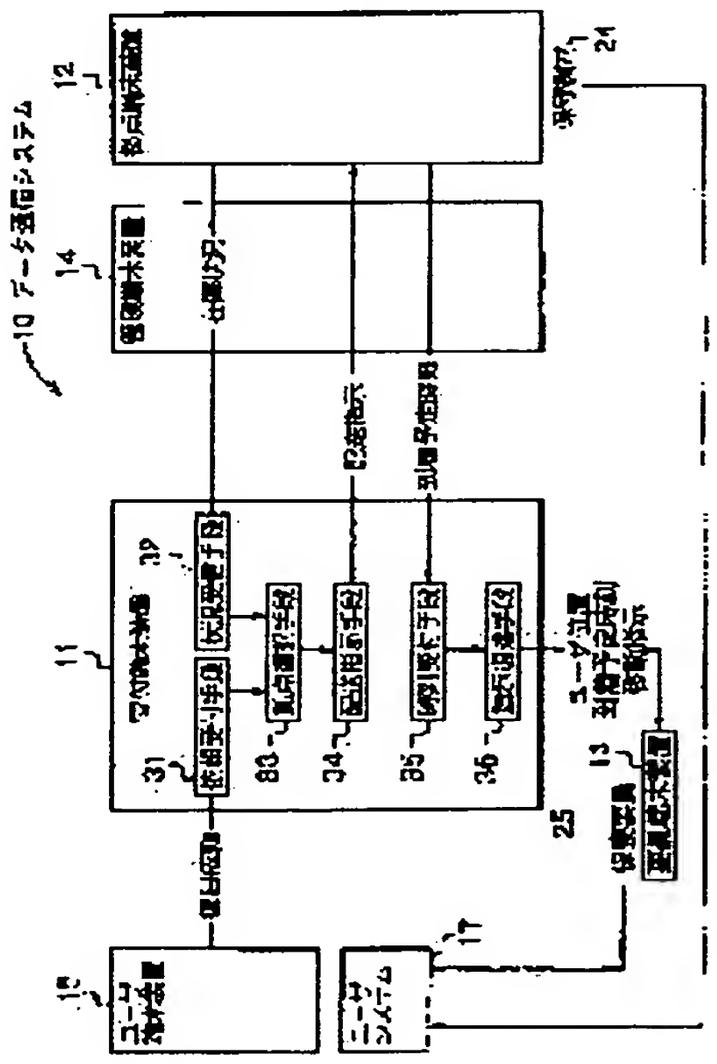
(54) MAINTENANCE OPERATION METHOD, RECEPTION TERMINAL DEVICE, DATA PROCESSING METHOD, AND INFORMATION STORAGE MEDIUM

(57)Abstract:
PROBLEM TO BE SOLVED: To allow a user system to be speedily recovered from a fault.
SOLUTION: Various maintenance machinery and materials 24 are in stock at respective distribution bases, whose stock states are managed at one logistic center; and one reception center which receives a repair request from a system user obtains the stock states from the logistic center and instructs a distribution base to distribute maintenance machinery and materials 24. The distribution base distributes the maintenance machinery and materials 24 and answers arrival schedule time to the reception center, which informs a maintenance staff 25 of the arrival schedule time and an instruction to visit the user position, so the maintenance staff 25 receives the maintenance machinery and materials 24 at the arrival schedule time and at the user position and restores the user system 17.



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CLAIMS

[Claim(s)]
[Claim 1] It is the maintenance-service approach that maintenance personnel restore the failure generated to the user system of a user location with maintenance equipments. In stock [equipments / various kinds of / which are prepared corresponding to various kinds of failures / maintenance / in the delivery base in each place] Data control of the inventory stock status of said various kinds of maintenance equipments in the delivery base of these every place is carried out in the distribution center of a piece. The restoration request of a failure is received in the reception center of a piece from the system user of said user system. Said reception center which received this restoration request carries out data acquisition of said inventory stock status from said distribution center. Said delivery base which said maintenance equipments corresponding to said failure by which the restoration request of said reception center which carried out data acquisition of this inventory stock status was carried out, and approached said user system is chosen. Said reception center directs the delivery to said user location of said these selected maintenance equipments at said delivery base. While this delivery base delivers said maintenance equipments in said user location, compute the ETA and it answers said reception center. The maintenance-service approach that this reception center notifies said ETA and the migration directions to said user location to said maintenance personnel, and these maintenance personnel receive said maintenance equipments in said user location at said ETA, and restore the failure of said user system.
[Claim 2] Said reception center, said delivery base, and said maintenance personnel are the maintenance-service approach according to claim 1 of belonging to the external PD delivery firm which has made a contract of said distribution center with said maintenance service firm by belonging to the maintenance service firm of a piece.
[Claim 3] The maintenance-service approach according to claim 1 or 2 that said delivery base requests delivery of said maintenance equipments to said user location from said PD delivery firm to which said distribution center belongs.
[Claim 4] A request reception means to be the reception terminal unit of the piece which carries out data communication through two or more delivery bases and communication networks which have been arranged at every place, and to receive the restoration request of a failure from the system user of a user system, The situation receiving means which carries out data acquisition of the inventory stock status of various kinds of maintenance equipments in the delivery base in each place by which data control is carried out in the external distribution center if a restoration request is received, A base selection means to choose said delivery base which said maintenance equipments corresponding to the failure by which the restoration request was carried out from the inventory stock status which carried out data reception, and approached said user system, A delivery directions means to direct the delivery to said user location of said selected maintenance equipments at said delivery base, The reception terminal unit possessing a directions notification means to notify a time-of-day reception means to receive the ETA to which it is answered from said delivery base corresponding to said directions, and said ETA and the migration directions to said user location to said maintenance personnel.
[Claim 5] It is the data-processing approach of the reception terminal unit of the piece which carries out data communication through two or more delivery bases and communication networks which have been arranged at every place. Data acquisition of the inventory stock status of various kinds of maintenance equipments in the delivery base in each place by which data control is carried out in the external distribution center if the restoration request of a failure is received from the system user of a user system and this restoration request is received is carried out. Said delivery base which said maintenance equipments corresponding to said failure by which the restoration request was carried out from this inventory stock status that carried out data reception, and approached said user system is chosen. The data-processing approach of directing the delivery to said user location of said these selected maintenance equipments at said delivery base, receiving the ETA to which it is answered from said delivery base corresponding to these directions, and notifying this ETA and the migration

directions to said user location to said maintenance personnel.
[Claim 6] It is the information storage medium by which the software for the computer of the reception terminal unit of the reception center of the piece which carries out data communication through two or more delivery bases and communication networks which have been arranged at every place is stored. The restoration request of a failure is received from the system user of said user system, Data acquisition of the inventory stock status of various kinds of maintenance equipments in the delivery base in each place by which data control is carried out in the external distribution center if this restoration request is received is carried out, Said delivery base which said maintenance equipments corresponding to said failure by which the restoration request was carried out from this inventory stock status that carried out data reception, and approached said user system is chosen, The delivery to said user location of said these selected maintenance equipments is directed at said delivery base, The information storage medium by which the program for performing said computer is stored [receiving the ETA to which it is answered from said delivery base corresponding to these directions, notifying this ETA and the migration directions to said user location to said maintenance personnel, and].

[Translation done.]

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the information storage medium by which the program for the maintenance-service approach that maintenance personnel restore the failure of a user system with maintenance equipments, the reception terminal unit used for implementation of this maintenance-service approach, its data-processing approach, and a reception terminal unit is stored as software.
[0002]
[Description of the Prior Art] User systems, such as current, communication system, and a personal computer, are used for the system user in user locations, such as a firm and a home. When a failure occurs to such a user system, a system user will request restoration from a maintenance service firm.
[0003] The maintenance service firm is preparing various kinds of maintenance equipments corresponding to various kinds of failures, and is making two or more maintenance personnel stand by. So, in the maintenance service firm which received the restoration request of a failure from the system user, the maintenance equipments corresponding to a failure will be chosen and maintenance personnel will bring these maintenance equipments to a user location. Since maintenance equipments and maintenance personnel arrive at a user location now, these maintenance personnel can restore the failure of a user system using maintenance equipments.
[0004]
[Problem(s) to be Solved by the Invention] By the above maintenance-service approaches, since maintenance personnel bring maintenance equipments from a maintenance service firm to a user location, maintenance personnel can restore the failure of a user system with maintenance equipments.
[0005] However, in fact, the time amount to which maintenance personnel are standing by in the maintenance service firm does not have abbreviation, and is moving the user location for failure restoration etc. Such maintenance personnel will return once to a maintenance service firm, in order to acquire maintenance equipments, if a new restoration request is directed, and they will move to a new user location from there. For this reason, it is difficult for time amount and cost until maintenance personnel arrive at a user location with maintenance equipments to increase, and to restore the failure of a user system quickly.
[0006] This invention is made in view of the above technical problems, and aims at that maintenance personnel and maintenance equipments are quick and offering at least one of the information storage medium **s in which the program for the maintenance-service approach of reaching low cost, the reception terminal unit used for implementation of this maintenance-service approach, its data-processing approach, and a reception terminal unit is stored as software.
[0007]
[Means for Solving the Problem] By the maintenance-service approach of this invention, in the delivery base in each place, and data control of the inventory stock status of various kinds of maintenance equipments in the delivery base of these every place is carried out in the distribution center of a piece. [equipments / various kinds of / which are prepared corresponding to various kinds of failures / maintenance] If the reception center of a piece receives the restoration request of a failure from the system user of a user system in this condition, the delivery base which this reception center carries out data acquisition of the inventory stock status from a distribution center, and the maintenance equipments corresponding to the failure by which the restoration request was carried out, and approached the user system will be chosen. If a reception center directs the delivery to the user location of these selected maintenance equipments at a delivery base, while this delivery base delivers maintenance equipments in a user location, the ETA will be computed and it will answer a reception center. Since this reception center notifies the ETA and the migration directions to a user location to maintenance personnel, these maintenance personnel receive maintenance

equipments in a user location at the ETA, and restore the failure of a user system.
[0008] That is, data control of the inventory stock status of maintenance equipments is carried out in the distribution center, and unitary management of the request reception of the other failure restoration etc. is carried out in the reception center. And maintenance personnel move to the user location where various kinds of maintenance equipments by which the distributed inventory is carried out at the delivery base in each place are directly delivered by the user location, and maintenance equipments are delivered directly.
[0009] In addition, a distribution center is able for a reception center, a delivery base, and maintenance personnel to belong to the maintenance service firm of a piece, and to belong to the external PD delivery firm which has contracted with this maintenance service firm. Moreover, when a delivery base delivers maintenance equipments in a user location, it is also possible to request this from the PD delivery firm to which the distribution center belongs.
[0010] Moreover, the various means as used in the field of this invention permit the predetermined functions realized inside the computer by the hardware of the dedication which generates a predetermined function, the computer by which the predetermined function was given by the program, and the program that what is necessary is to just be formed so that the function may be realized, such combination, and **.
[0011] Moreover, ROM (Read Only Memory) currently fixed to the equipment which makes a computer a part that the information storage medium as used in the field of this invention should just be the hardware by which the program for performing various processings was stored in advance in the computer as software, HDD (Hard Disc Drive), CD(Compact Disc)-ROM, FD (Floppy Disc) with which the equipment which makes a computer a part is loaded free [attachment and detachment], etc. are permitted.
[0012] Moreover, the equipment by which various devices, such as ROM, RAM (Random Access Memory), and I/F (Interface), were connected to this as occasion demands is permitted by making CPU (Central Processing Unit) into a subject that the computer as used in the field of this invention should just be equipment which can perform processing actuation which reads the program which consists of software and corresponds.
[0013] In addition, as for making a computer perform various actuation corresponding to software by this invention, carrying out motion control to a computer etc. permits various devices. For example, in the case of FD etc., that carrying out data storage of the various data to a computer stores various data in information storage media, such as RAM to which the computer is connected in advance, or storing various data in the internal memory which the computer's possesses as a part, and the information storage medium of this invention permit [a computer] storing various data etc. there.
[0014]
[Embodiment of the Invention] One gestalt of operation of this invention is explained below with reference to a drawing. In the data telecommunication system 10 of the gestalt of this operation, as shown in drawing 2 , the reception terminal unit 11 of a piece, two or more base terminal units 12, many personnel terminal units 13, the administration terminal equipment 14 of a piece, two or more user-terminal equipments 15, etc. are connected to one communication network 16.
[0015] Two or more user-terminal equipments 15 consist of a computer system of the personal computer which a system user (not shown) owns, and are separately installed in two or more user locations 21 with the user system 17 here. Although the user system 17 consists of communication system which a system user owns, the maintenance service is requested from the maintenance service firm.
[0016] The reception terminal unit 11 of a piece consists of a computer system of a Network Server, a host computer, etc., and is installed in the reception center 22 of the piece of a maintenance service firm. Two or more base terminal units 12 also consist of same computer system, and are separately installed in two or more delivery bases 23 of a maintenance service firm.
[0017] Suitably in stock [base / the delivery base 23 of these plurality is arranged at every place which corresponded to the user location 21 and were distributed geographically, and / equipments / 24 / various kinds of / maintenance]. As for these maintenance equipments 24,

various kinds are prepared corresponding to various kinds of failures of the user system 17, and each of two or more base terminal units 12 is carrying out data control of the inventory stock status of the maintenance equipments 24 in that delivery base 23 separately.
[0018] Many personnel terminal units 13 consist of a cellular phone, a mobile computer, etc. here, and are separately carried by much maintenance personnel 25 of a maintenance service firm. The maintenance personnel 25 of these large number are moving two or more user locations 21 as occasion demands, and restore the failure of the user system 17 using the maintenance equipments 24.
[0019] The administration terminal equipment 14 of a piece also consists of a computer system of a Network Server, a host computer, etc., and is installed in the distribution center 26 of a piece. However, this distribution center 26 belongs to the PD delivery firm instead of a maintenance service firm, and this PD delivery firm and a maintenance service firm have made a contract of it.
[0020] For this reason, data communication of the administration terminal equipment 14 is carried out to the base terminal unit 12 of two or more delivery bases 23 through a communication network 16, and it is carrying out data control of the inventory stock status of various kinds of maintenance equipments 24 in the delivery base 23 in each place. Moreover, data communication of the administration terminal equipment 14 is carried out also to the reception terminal unit 11 of the reception center 22 through a communication network 16, and it mediates the data communication of the reception terminal unit 11 and the base terminal unit 12.
[0021] The reception terminal unit 11 possesses CPU101 as hardware which serves as a subject of a computer, and hardware, such as communication link I/F113 connected to FDD (FD Drive) 107 loaded with ROM103, RAM104, HDD105, and FD106 by the bus line 102 free [exchange], the CD drive 109 loaded with CD-ROM108 free [exchange], a keyboard 110, a mouse 111, a display 112, and the Internet 14, is connected to this CPU101.
[0022] In addition, although the specification and engine performance of each part are different, since the configuration of hardware is fundamentally the same, the reception terminal unit 11, the base terminal unit 12, and administration terminal equipment 14 divert the same name and the same sign here with the reception terminal unit 11, the base terminal unit 12, and administration terminal equipment 14, and omit detailed explanation.
[0023] In the reception terminal unit 11 of the gestalt of this operation, hardware, such as ROM103, RAM104, HDD105, exchangeable FD106, and exchangeable CD-ROM108, is equivalent to an information storage medium, and these control program required for various actuation to a piece and various data are hesitant the account of data as software at least.
[0024] For example, the control program which makes CPU101 perform various kinds of processing actuation is stored in FD106 or CD-ROM108 in advance. Such software is installed in HDD105 in advance, is copied to RAM104 at the time of starting of the reception terminal unit 11, and is read by CPU101.
[0025] Thus, by reading a program with proper CPU101 and performing various kinds of processing actuation, as shown in drawing 1 , as for the reception terminal unit 11 of the gestalt of this operation, the request reception means 31, the situation receiving means 32, the base selection means 33, the delivery directions means 34, the time-of-day reception means 35, the directions notification means 36, etc. are provided logically.
[0026] The request reception means 31 is equivalent to the function in which CPU101 carries out data recognition of the received data of communication link I/F113 corresponding to the control program by which data-hold is carried out to the RAM104 grade, and receives the restoration request of a failure from a system user's user-terminal equipment 15. The restoration request of this failure is performed with the electronic mail of a predetermined format for example, and the input format of this electronic mail is distributed to the system user in advance from the maintenance service firm.
[0027] The situation receiving means 32 will carry out data acquisition of the inventory stock status of various kinds of maintenance equipments 24 in the delivery base 23 in each place from the administration terminal equipment 14 of a distribution center 26, if it is equivalent to the

function in which CPU101 carries out motion control of the data communication of communication link I/F113 corresponding to a control program and a restoration request is received by the request reception means 31.
[0028] The base selection means 33 chooses the delivery base 23 which CPU101 is equivalent to the function to perform predetermined data processing corresponding to a control program etc., and the maintenance equipments 24 corresponding to the failure by which the restoration request was carried out from the inventory stock status by which data acquisition was carried out with the situation receiving means 32, and approached the user system 17.
[0029] The delivery directions means 34 is equivalent to the function in which CPU101 carries out motion control of the data communication of communication link I/F113 corresponding to a control program, and carries out data transmission of the delivery directions to the user location 21 of the maintenance equipments 24 chosen by the base selection means 33 at the base terminal unit 12 of the delivery base 23.
[0030] Data transmission also of these delivery directions is carried out with the electronic mail of a predetermined format etc., and data selection of the user location 21, arrival request time of day, etc. which are the maintenance equipments 24 and the address for delivery is carried out as predetermined data there. In addition, since data transmission of these delivery directions is carried out from the reception terminal unit 11 in fact at the administration terminal equipment 14 of a distribution center 26, this administration terminal equipment 14 carries out data transfer of the delivery directions to the base terminal unit 12 of the delivery base 23.
[0031] At the delivery base 23 which carried out data reception of these delivery directions with the base terminal unit 12, while the maintenance equipments 24 are delivered by the user location 21, that ETA is computed. Since the data reply of this ETA is carried out from the base terminal unit 12 at administration terminal equipment 14, this administration terminal equipment 14 carries out data transfer also of the ETA to the reception terminal unit 11.
[0032] The time-of-day reception means 35 carries out data reception of the ETA when the data reply of CPU101 is carried out with the electronic mail of a predetermined format etc. from the delivery base 23 corresponding to the delivery directions which were equivalent to the function which carries out data recognition, and carried out data transmission of the received data of communication link I/F113 corresponding to the control program.
[0033] The directions notification means 36 is equivalent to the function in which CPU101 carries out motion control of the data communication of communication link I/F113 corresponding to a control program, and carries out data transmission with the electronic mail of the predetermined format of the ETA and the migration directions to the user location 21 to maintenance personnel's 25 personnel terminal unit 13 etc.
[0034] Although the various above means of the reception terminal unit 11 are realized as occasion demands using the hardware of communication link I/F113 grade, the subject is realized corresponding to the software stored in the information storage medium of RAM104 grade, when CPU101 which is the hardware of a computer functions.
[0035] Such software For example, the thing done for the data reception of the restoration request of a failure with the electronic mail of a predetermined format etc. from a system user's user-terminal equipment 15, If data reception of this restoration request is carried out, data acquisition of the inventory stock status of various kinds of maintenance equipments 24 in the delivery base 23 in each place will be carried out from the administration terminal equipment 14 of a distribution center 26, The delivery base 23 which the maintenance equipments 24 corresponding to the failure by which the restoration request was carried out from this inventory stock status by which data acquisition was carried out, and approached the user system 17 is chosen, Data transmission of the delivery directions to the user location 21 of these selected maintenance equipments 24 is carried out at the base terminal unit 12 of the delivery base 23, Data reception of the ETA by which a data reply is carried out from the delivery base 23 corresponding to these delivery directions that carried out data transmission is carried out, It is stored in the information storage medium of RAM104 grade as a control program for making CPU101 grade perform processing actuation of carrying out data transmission of the migration directions to this ETA and user location 21 that carried out data reception at maintenance

personnel's 25 personnel terminal unit 13.
[0036] In the above configurations, the maintenance-service approach using the reception terminal unit 11 of the gestalt of this operation is explained below. First, the system user is using the user systems 17, such as communication system, in the user location 21, and the maintenance service of this user system 17 is requested from a maintenance service firm.
[0037] This maintenance service firm possesses the reception center 22 of a piece, and two or more delivery bases 23, and is doing the distributed inventory of various kinds of maintenance equipments 24 required for failure restoration of the user system 17 at the delivery base 23 in each place. However, the maintenance service firm has requested the stock control of various kinds of maintenance equipments 24 in the delivery base 23 of these plurality from an external PD delivery firm, and data control is carried out with the administration terminal equipment 14 of this PD delivery firm.
[0038] If a failure occurs to the user system 17 in such the condition, the system user will do data transmission of the restoration request of a failure through a communication network 16 at the reception terminal unit 11 of the reception center 22 of a maintenance service firm from user-terminal equipment 15.
[0039] In this reception terminal unit 11, if data reception of the restoration request of a failure is carried out from a system user as mentioned above as shown in drawing 4 (step S1), data acquisition of the inventory stock status of various kinds of maintenance equipments 24 in the delivery base 23 in each place will be carried out from the administration terminal equipment 14 of the distribution center 26 of a PD delivery firm (step S2).
[0040] Next, the maintenance equipments 24 corresponding to the failure by which the restoration request was carried out are selected from this inventory stock status by which data acquisition was carried out, and the delivery base 23 which those maintenance equipments and approached the user system 17 is chosen (step S3). Since data transmission of the delivery directions of these selected maintenance equipments 24 is carried out from the reception terminal unit 11 as an electronic mail of a predetermined format etc. at administration terminal equipment 14 (step S4), the data reply of the check data of the data reception to the reception terminal unit 11 is carried out from this administration terminal equipment 14.
[0041] Data validation of the adjustment with the inventory stock status which is carrying out data control to the contents of a setting of the delivery directions which carried out data reception etc. is carried out, and this administration terminal equipment 14 carries out data transfer of the delivery directions to the corresponding base terminal unit 12 of the delivery base 23.
[0042] At the delivery base 23 which carried out data reception of the delivery directions with this base terminal unit 12, delivery means, such as parcel delivery service, are selected by the full-time delivery staff corresponding to weight, an appearance, etc. of the user location 21 or the maintenance equipments 24, and the maintenance equipments 24 are delivered by the user location 21 with this selected means, for example.
[0043] At this time, the ETA is computed based on the selected delivery means, and the data reply of this ETA is carried out from the base terminal unit 12 even to the reception terminal unit 11 of the reception center 22 through the administration terminal equipment 14 of a distribution center 26 with delivery start time, a delivery means, etc.
[0044] Then, since data transmission of the migration directions to the user location 21 is carried out with (step S5) and its ETA at maintenance personnel's 25 personnel terminal unit 13 in the reception terminal unit 11 which carried out data reception of this ETA etc. (step S6), the data reply of the check data of data reception is carried out from this personnel terminal unit 13 at the reception terminal unit 11.
[0045] Thus, the maintenance personnel 25 who did data reception of the migration directions with the personnel terminal unit 13 will move to the user location 21 which carried out data reception by the ETA. Since the maintenance equipments 24 are also delivered by the user location 21 at coincidence at the ETA, maintenance personnel 25 receive the maintenance equipments 24 in the user location 21 at the ETA, and restore the failure of the user system 17.
[0046] By the maintenance-service approach using the reception terminal unit 11 of the gestalt

of this operation, various kinds of maintenance equipments 24 by which the distributed inventory is carried out as mentioned above at the delivery base 23 in each place are directly delivered by the user location 21, and the maintenance personnel 25 located in every place also move to the user location 21 directly. For this reason, maintenance personnel 25 and the suitable maintenance equipments 24 can be quickly moved to the user location 21, and the failure of the user system 17 can be restored quickly.

[0047] And yet, since maintenance personnel 25 also move corresponding to the ETA of the maintenance equipments 24, even if the maintenance equipments 24 and maintenance personnel 25 move to the user location 21 separately, a maintenance service can be performed to on demand one so that neither the maintenance equipments 24 nor maintenance personnel 25 can stand by vainly in the user location 21.

[0048] And unitary management of the inventory stock status of the maintenance equipments 24 is carried out in the distribution center 26, and unitary management of the request reception of the other failure restoration etc. is carried out in the reception center 22. For this reason, you can deliver various kinds of maintenance equipments 24 by which the distributed inventory is carried out at the delivery base 23 in each place suitable for the user location 21, and the maintenance personnel 25 located in every place can also make it move suitable for the user location 21.

[0049] In addition, this invention is not limited to the above-mentioned gestalt, either, and permits various kinds of deformation in the range which does not deviate from the summary. For example, although it illustrated doing a series of activities to the notification from registration of the restoration request by the system user to maintenance personnel 25 by data processing with the automatic reception terminal unit 11 with the above-mentioned gestalt, staffs, such as a reception staff (not shown), are able to perform the part thru/or all.

[0050] For example, although the restoration request of the failure of the user system 17 illustrated that data transmission was carried out by E-mail from user-terminal equipment 15 to the reception terminal unit 11 with the above-mentioned gestalt, a system user is able to connect this to the reception staff of the reception center 22 orally by telephone.

[0051] Although similarly it illustrated that the reception terminal unit 11 which carried out data reception of the restoration request carried out data recognition of the inventory stock status, and chose the maintenance equipments 24 and the delivery base 23 with the above-mentioned gestalt, it is possible also in a reception staff performing this by own decision, and possible also in the reception staff of the reception center 22 connecting the delivery directions orally by telephone to the management staff of a distribution center 26.

[0052] Furthermore, with the above-mentioned gestalt, when CPU101 operated according to the control program stored in the RAM104 grade as software, it illustrated that various means were logically realized as various functions of the reception terminal unit 11. However, it is also possible to form each of such various means as hardware of a proper, and the thing which store in RAM104 grade by making a part into software and for which both parts are formed as hardware is also possible.

[0053] Moreover, although it assumed that CPU101 read the software with which the software installed in HDD105 in advance from the CD-ROM108 grade was copied to RAM104 at the time of starting of the reception terminal unit 11, and was stored in RAM104 in this way with the above-mentioned gestalt, it is also possible to make it use for CPU101, storing such software in HDD105 or to store in ROM103 fixed in advance.

[0054] Furthermore, software is stored in FD106 and CD-ROM108 which are the information storage which can be dealt with alone, and it is also possible to also install software in HDD105 or RAM104 from this FD106 grade and for CPU101 to read software in FD106 grade directly, and to perform processing actuation, without performing such install, although it is possible.

[0055] Moreover, the technique of supplying the software described to the information storage medium in this way to CPU101 is not limited to loading the reception terminal unit 11 with the information storage medium directly. That is, when software realizes the various means of the reception terminal unit 11 of this invention, the software should just be in the condition that actuation to which CPU101 reads and corresponds can be performed.

[0056] Moreover, what is necessary is it to be also possible for to form the control program which realizes the various above means in the combination of two or more software, and to store only the necessary minimum software for realizing the reception terminal unit 11 of this invention in the information storage medium which serves as a product of a simple substance in that case.

[0057] For example, since software which realizes the various means of the reception terminal unit 11 of this invention is realized in the combination of application software and an operating system when providing with application software the reception terminal unit 11 with which the existing operating system is mounted with the information storage of CD-ROM108 grade, the software of the part depending on an operating system is omissible from the application software of an information storage.

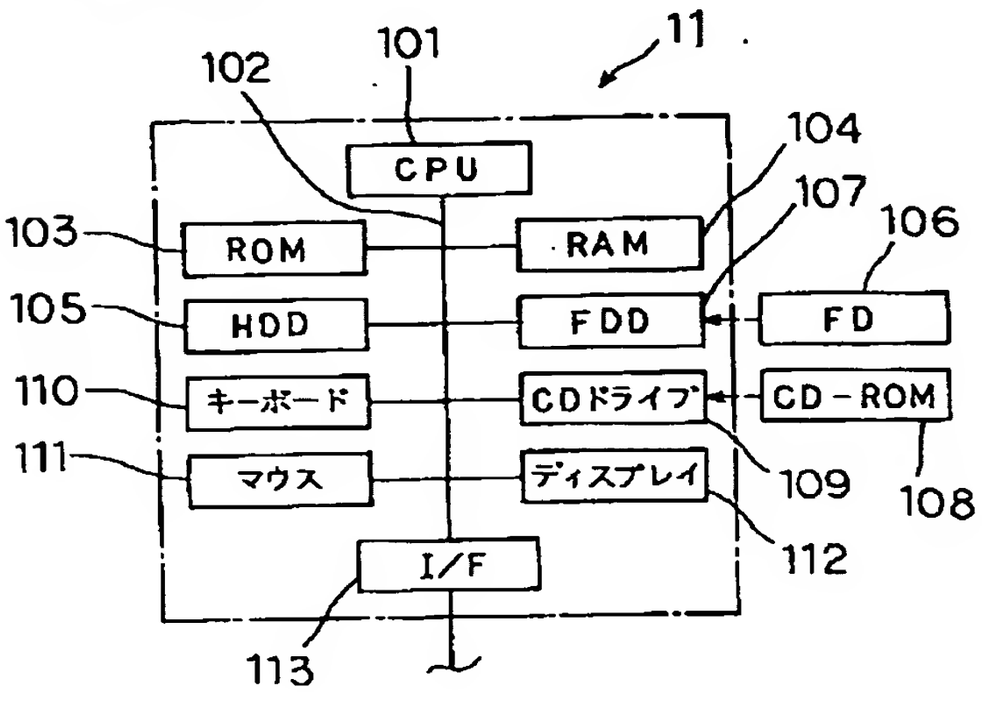
[0058]

[Effect of the Invention] In stock [the maintenance-service approach of this invention / equipments / various kinds of / which are prepared corresponding to various kinds of failures / maintenance / in the delivery base in each place] If data control of the inventory stock status of various kinds of maintenance equipments in the delivery base of these every place is carried out in the distribution center of a piece and the reception center of a piece receives the restoration request of a failure from the system user of a user system in this condition The delivery base which this reception center carries out data acquisition of the inventory stock status from a distribution center, and the maintenance equipments corresponding to the failure by which the restoration request was carried out, and approached the user system is chosen. If a reception center directs the delivery to the user location of these selected maintenance equipments at a delivery base While this delivery base delivers maintenance equipments in a user location, compute the ETA and it answers a reception center. When this reception center notifies the ETA and the migration directions to a user location to maintenance personnel, and these maintenance personnel receive maintenance equipments in a user location at the ETA and restore the failure of a user system Since maintenance personnel move to the user location where various kinds of maintenance equipments by which the distributed inventory is carried out at the delivery base in each place are directly delivered by the user location, and maintenance equipments are delivered directly Since maintenance personnel and suitable maintenance equipments are quickly moved to a user location, the failure of a user system can be restored quickly and maintenance personnel also move and yet corresponding to the ETA of maintenance equipments A maintenance service can be performed to on demand one, without the maintenance equipments and maintenance personnel who move to a user location separately standing by vainly. And since unitary management of the inventory stock status of maintenance equipments is carried out in the distribution center and unitary management of the request reception of the other failure restoration etc. is carried out in the reception center You can deliver various kinds of maintenance equipments by which the distributed inventory is carried out at the delivery base in each place suitable for a user location, and the maintenance personnel located in every place can also make it move suitable for a user location.

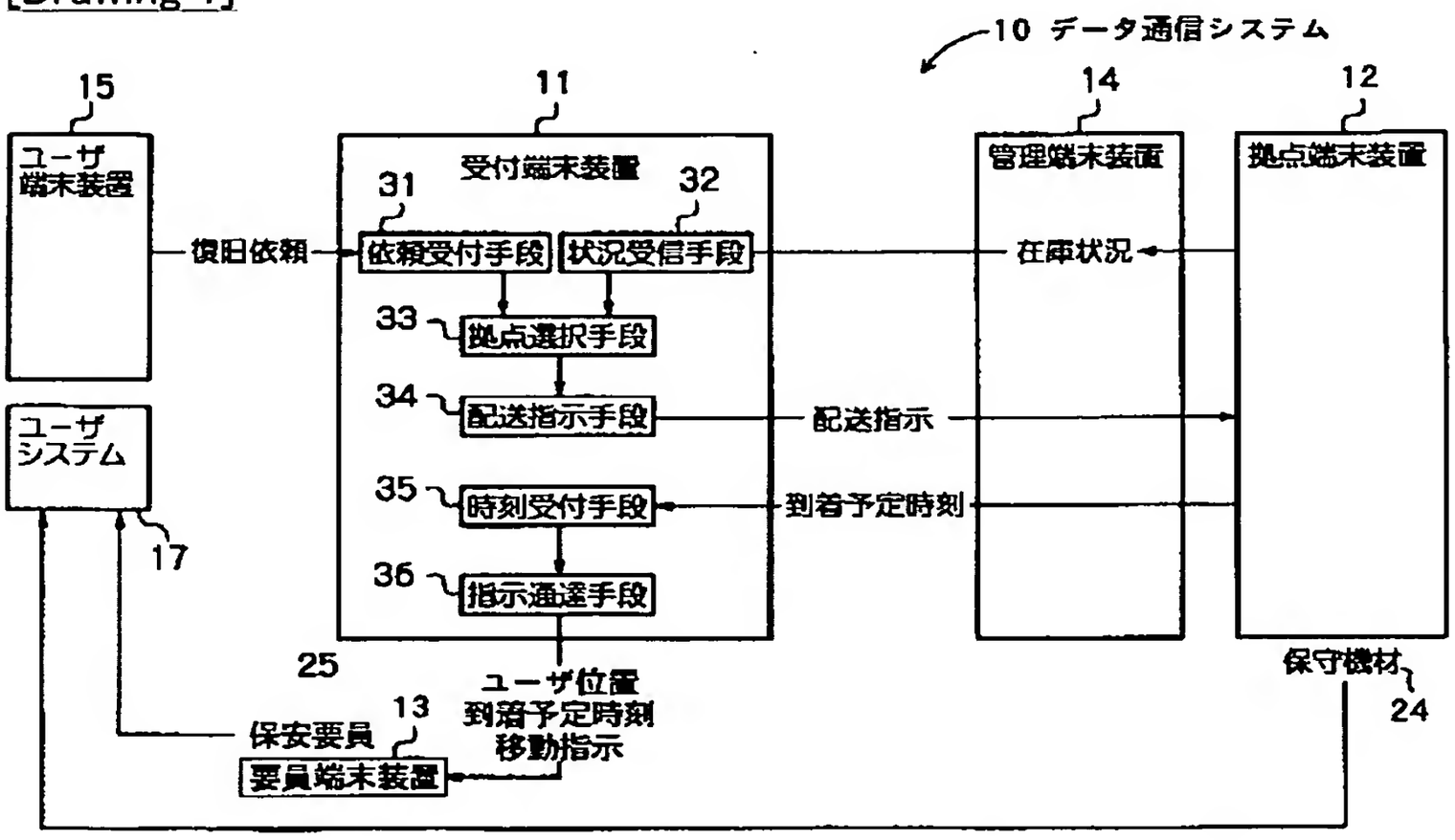
[Translation done.]

DRAWINGS

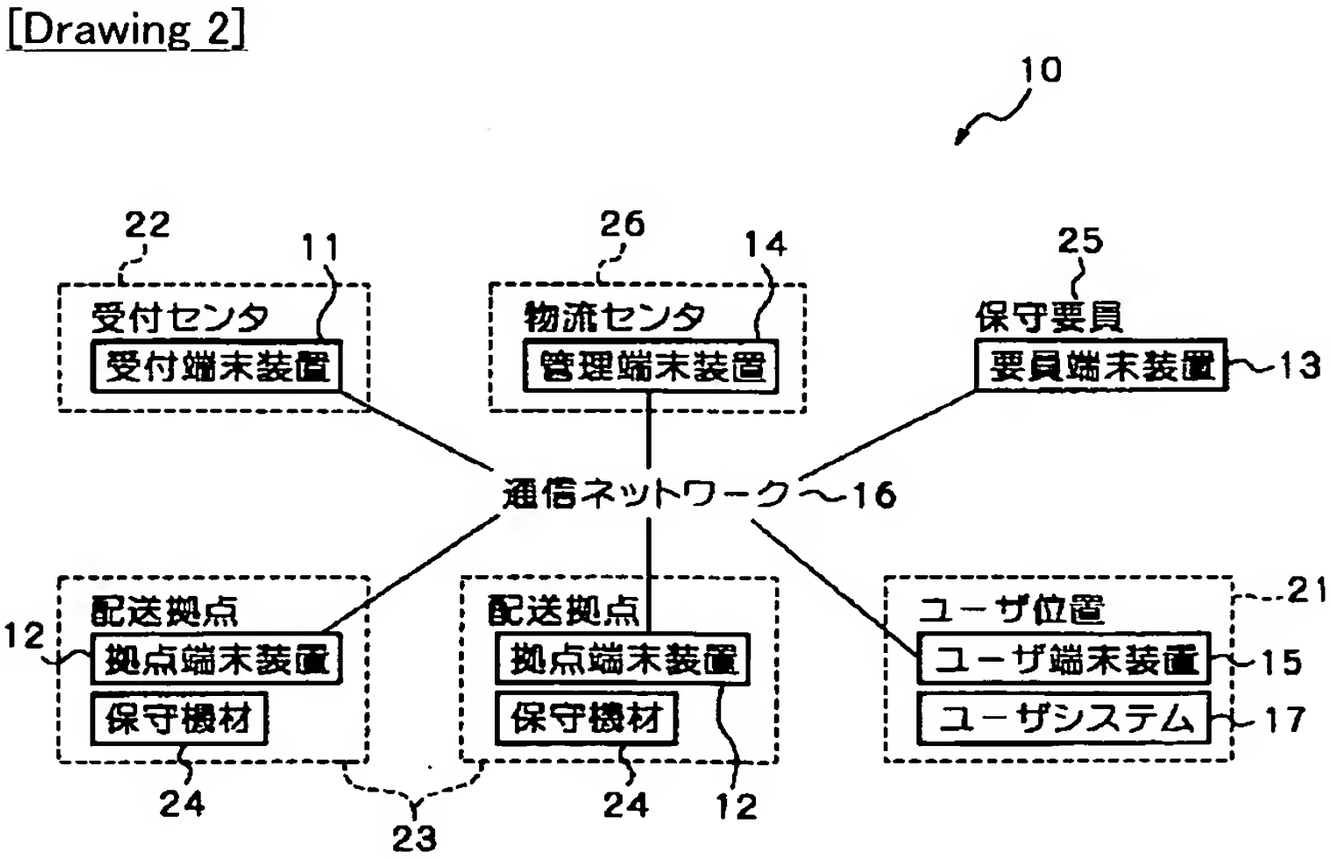
[Drawing 3]



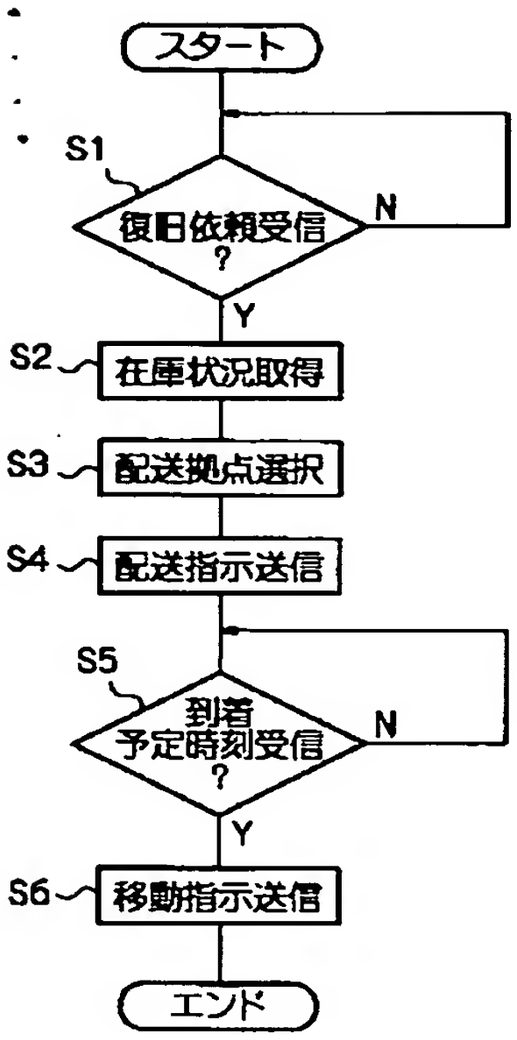
[Drawing 1]



[Drawing 2]



[Drawing 4]



[Translation done.]